

2.0 MITIGATION MONITORING AND REPORTING PROGRAM

The Mitigation Monitoring and Reporting Program (MMRP) is a CEQA-required component of the Environmental Impact Report (EIR) process for the project. The results of the environmental analyses, including proposed mitigation measures, are documented in Volume I of this Final EIR.

CEQA requires that agencies adopting EIRs take affirmative steps to determine that approved mitigation measures are implemented subsequent to project approval.

As part of the CEQA environmental review procedures, Section 21081.6 requires a public agency to adopt a monitoring and reporting program to ensure efficacy and enforceability of any mitigation measures applied to the proposed project. The lead agency must adopt an MMRP for mitigation measures incorporated into the project or proposed as conditions of approval. The MMRP must be designed to ensure compliance during project implementation. As stated in Section 21081.6 (a) (1):

The public agency shall adopt a reporting or monitoring program for the changes made to the project or conditions of project approval, adopted in order to mitigate or avoid significant effects on the environment. The reporting or monitoring program shall be designed to ensure compliance during project implementation. For those changes which have been required to incorporated into the project at the request of a responsible agency or a public agency having jurisdiction by law over natural resources affected by the project, that agency shall, if so requested by the lead agency or a responsible agency, prepare and submit a proposed reporting or monitoring program.

Table 2-1 is the final MMRP matrix. The table lists each of the mitigation measures proposed in Volume I of the Final EIR and specifies the agency responsible for implementation of the mitigation measure and the time period for the mitigation measure.

Table 2-1 Mitigation Monitoring and Reporting Program

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
Aesthetics			
Impact AES-1: Construction activities associated with the project would temporarily change the visual character of the project area.	Mitigation Measure AES-1: Require Measures for Visual Character/Quality Impacts During Site Preparation/Mass Grading and Underground Installation/Surface Improvements activities. Construction permits shall require all construction contractors to strictly control the staging of construction equipment and the cleanliness of construction equipment stored or driven beyond the limits of the construction work areas. Construction equipment shall be parked and staged on the project site in a designated location. Prior to the issuance of building permits, the project proponent(s) shall submit a construction staging, access, and parking plan to the City building department for review and approval. This plan shall show designated staging areas for equipment, access ways and vehicle routes, construction parking, erosion control, re-vegetation and other information as required by the City of Fremont. Construction vehicles shall be kept clean and free of mud and dust before leaving the site. Project contractors shall be required to sweep surrounding streets used for construction access daily and maintain them free of dirt and debris.	City of Fremont Community Development Department	Prior to issuance of building permits
Impact AES-7: Residential development and project lighting, including safety lighting and street lighting, would introduce new nighttime light sources on the previously undeveloped project area and on adjacent roadways, including Paseo Padre Parkway and Ardenwood Boulevard.	Mitigation Measure AES-7: Preparation of a Lighting Plan to Reduce Light Spillover. The project proponent shall prepare a lighting plan to reduce potential lighting impacts. Exterior lighting shall be low mounted, downward casting and shielded, and shall utilize motion detection systems where applicable and not spill out onto adjacent properties. In general, the light footprint of individual units shall not extend beyond the periphery of each property. Outdoor lighting in parks and open space areas shall be for security purposes only. The plan shall also identify the number and type of light fixtures and overhead pole heights. Implementation of exterior lighting fixtures on all buildings shall also comply with the standard California Building Code to reduce the lateral spreading of light	Project Proponent(s)	Prior to issuance of building permits

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
<i>Aesthetics, Continued.</i>			
<i>Impact AES-7, Continued.</i>	to surrounding uses. The lighting plan shall also eliminate spillover of light into the open space, including Patterson Slough, Crandall Creek (K-line channel) and the Alameda Creek flood control channels, consistent with Mitigation Measure BIO-10a . Restrictions on lighting shall be incorporated into the Covenants, Codes, and Restrictions (CC & Rs) for the project to ensure that private lighting conforms to the approved lighting plan. This measure shall also apply to the future religious facility that may be built.		
Impact AG-1: Residential development and earthmoving activities on the project area would impact prime agricultural farmland.	<p>Mitigation Measure AG-1: Establish agricultural conservation easements.</p> <p>The project proponent(s) shall purchase or provide funds for agricultural conservation easements, or employ other measures of land restriction within the County, on land of at least equal quality and size as the agricultural land impacted by the project. Should the project proponent(s) choose to employ land restriction measures over the purchase or funding for agricultural conservation easements, the City shall be responsible for ensuring that the terms of the land restrictions are upheld? The City shall require the establishment of any formal easement contracts prior to the issuance of building permits for the project.</p> <p>Mitigation via agricultural conservation easements can be implemented by at least two alternative approaches: (1) the direct purchase of conservation easements, or (2) the donation of mitigation fees to the Alameda County Partnership for Land Conservation and Stewardship (PLCS), whose purpose includes the acquisition and stewardship of agricultural conservation easements. Under either alternative, the mitigation transaction shall be facilitated by the PLCS. Conservation easements will protect a portion of those remaining resources in the state and lessen project impacts in accordance with CEQA Guidelines Section 15370.</p>	Project Proponent(s)	Prior to construction

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
<i>Aesthetics, Continued.</i>			
Impact CUM-AG 1: Development of the project in combination with other development in the region has the potential to cumulatively impact state-designated important farmland.	<p>Mitigation Measure CUM AG-1: Establish agricultural conservation easements.</p> <p>Implement Mitigation Measure AG-1a, which requires the project proponent(s) to purchase or provide funds for agricultural conservation easements, or employs other measures of land restriction within the County, on land of at least equal quality and size as the agricultural land impacted by the project.</p>	Project Proponent(s)	Prior to construction
Air Quality			
Impact AQ-1: Project development of new residential uses and associated traffic trips, would result in a net increase of Reactive Organic Gases (ROG), a criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.	<p>Mitigation Measure AQ-1a: Incorporate Measures to Reduce Air Pollutant Emissions.</p> <p>Most of the recommended mitigation measures that reduce ROG emissions have already been incorporated into the project. However, to reduce ROG emissions further, the project proponent(s) shall incorporate the following additional mitigation measures into the project:</p> <ul style="list-style-type: none"> ■ Landscape plans to include new trees that would shade buildings and walkways in summer to reduce the cooling loads on buildings; ■ New buildings constructed as part of the project exceed state building code energy efficiency standards by at least 15 percent over 2008 requirements; ■ Provide outdoor electrical outlets on the exterior of all buildings to encourage use of electric-powered landscape equipment; ■ Require installation of energy-efficient ceiling/whole-house fans; and ■ Require light-colored pavement and roofs, with non-glare materials and colors or a combination of measures to achieve the same additional energy savings. 	Project Proponent(s) and City of Fremont	During project design

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
<i>Air Quality, Continued</i>			
<i>Impact AQ-1, Continued.</i>	<p>Mitigation Measure AQ-1b: Incorporate green building design and construction measures pursuant to the Alameda County Build It Green Program.</p> <p>Prior to the issuance of building permits, Fremont shall confirm that the measures proposed as part of the project, pursuant to the project's involvement in the Alameda County Build It Green program for single family homes, have been incorporated into the final project design and construction plans for the development of single family homes in the project area. The measures listed below will particularly reduce ROG emissions:</p> <ul style="list-style-type: none"> ■ Recycled content shall be included in project building materials, including the use of pre-consumer fly-ash in the concrete for project walkways, driveways, roadways, and non-plant landscape elements. ■ The heating, ventilation, and air conditions (HVAC) systems within each single family home shall use environmentally responsible refrigerants (i.e. non CFC-based refrigerants). ■ Indoor ventilation systems in each home shall include high-efficiency systems to provide enhanced indoor air quality as potential pollutants would be ventilated through the building at a faster rate. ■ Wood from sustainably harvested forests (as certified by the Forest Stewardship Council) shall be used in wood materials for the single family homes, including flooring, cabinets, trim, shelving, doors, and countertops. 	Project Proponent(s) and City of Fremont Community Development Department	Prior to issuance of building permits

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
<i>Air Quality, Continued</i>			
Impact AQ-4: Emission of dust and diesel exhaust during construction of the project would expose sensitive receptors to substantial pollutant concentrations during the construction phase of the project.	<p>Mitigation Measure AQ-4a: Incorporate Measures to Control Construction Dust Emissions During All Phases of Construction Activities.</p> <p>The project proponent(s) shall implement the following measures for all phases of construction as recommended by BAAQMD to reduce the air quality impacts of particulate matter (PM₁₀ and PM_{2.5}) associated with grading and new construction:</p> <ul style="list-style-type: none"> ■ All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe. ■ All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph. ■ Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established. ■ The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time. ■ All trucks and equipment, including their tires, shall be washed off prior to leaving the site. ■ Site accesses to a distance of 100 feet from the paved road shall be treated with a 6 to 12 inch compacted layer of wood chips, mulch, or gravel. ■ Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than one percent. 	City of Fremont Community Development Department	Prior to and during construction

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
<i>Air Quality, Continued</i>			
<i>Impact AQ-4, Continued.</i>	<p>Mitigation Measure AQ-4b: Incorporate Measures to Control Construction Diesel Exhaust Emissions.</p> <p>The project proponent(s) shall implement the following measures recommended by BAAQMD to control diesel exhaust emissions associated with grading and new construction.</p> <ul style="list-style-type: none"> ■ The project shall provide a plan, for approval by Fremont, demonstrating that the heavy-duty (> 50 horsepower) off-road vehicles to be used in the on site construction project, including owned, leased and subcontractor vehicles, shall achieve a project wide fleet-average 20 percent NOx reduction and 45 percent particulate reduction compared to the CARB fleet average projected for each construction year. ■ Prohibit equipment with dirty emissions. The project shall ensure that emissions from all off-road diesel powered equipment used on the project area do not exceed 40 percent opacity for more than three minutes in any one hour. Any equipment found to exceed 40 percent opacity (or Ringelmann 2.0) shall be repaired immediately. This measure means that equipment with continuous dark emissions is in violation of the requirement. ■ Reduce equipment and vehicle idle times. Enforce State idling requirements that require diesel equipment standing idle for more than five minutes shall be turned off. This would include trucks waiting to deliver or receive soil, aggregate or other bulk materials. Rotating drum concrete trucks could keep their engines running continuously as long as they were onsite. ■ Reduce vehicle emissions. Properly tune and maintain equipment for low emissions. 	Project Proponent(s)	Prior to and during construction

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
<i>Air Quality, Continued</i>			
<i>Impact AQ-4, Continued.</i>	<ul style="list-style-type: none"> Separate equipment and trucks from residences. Avoid staging equipment within 200 feet of residences (including newly built and occupied residences). Contractor shall maintain maintenance records for all equipment used on site. Use low VOC (i.e., ROG) coatings that, on average, have a VOC content of 150 grams per liter or lower. 		
Impact CUM AQ-1: Development of the project in conjunction with other development in the region would result in a net increase of Reactive Organic Gases (ROG), a criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.	Mitigation Measure CUM AQ-1a: Incorporate Measures to Reduce Air Pollutant Emissions. Implement Mitigation Measure AQ-1a , which requires the project proponent(s) to incorporate additional measures to reduce ROG emissions.	Project Proponent(s) and City of Fremont Community Development Department	Prior to and during construction
	Mitigation Measure CUM AQ-1b: Incorporate green building design and construction measures pursuant to the Alameda County Build It Green Program. Implement Mitigation Measure AQ-1b , which requires, prior to the issuance of building permits, the City to confirm that the measures proposed as part of the project, pursuant to the project's involvement in the Alameda County Build It Green program for single family homes, have been incorporated into the final project design and construction plans for the development of single-family homes in the project area.	Project Proponent(s)	During project design

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
Biological Resources			
<p>Impact BIO-1: Project-related construction could lead to the potential loss or other adverse affects to special-status bird species and their associated habitat, including Cooper's hawk, tricolored blackbird, burrowing owl, golden eagle, northern harrier, yellow warbler, white-tailed kite, saltmarsh common yellowthroat, yellow-breasted chat, loggerhead shrike, Alameda song sparrow, California black rail, and California clapper rail.</p>	<p>Mitigation Measure BIO-1a: Preconstruction nesting bird survey.</p> <p>Prior to the commencement of construction activities that would occur during the nesting/breeding season of native bird species potentially nesting on or near the project area (typically February through August in the project region), the project sponsor shall retain a qualified biologist(s), as approved by Fremont, to conduct a nesting bird survey. The survey shall be conducted no more than one week prior to the commencement of construction. The intent of the survey would be to determine if active nests of special-status bird species or other species protected by the Migratory Bird Treaty Act and/or the California Fish and Game Code are present in the construction zone or within 500 feet of the construction zone.</p> <p>The biologist shall consult with CDFG before conducting the survey to ensure that the most recently adopted protocols are used in the survey. Based on current protocols, the survey shall include an inspection of all trees, shrubs, emergent habitats, and ground squirrel burrows (potentially used by burrowing owls) within the survey area. The surveys shall include methods approved by the USFWS and CDFG for determining if nesting black or clapper rails are present within the survey area, such as the standard "walking transect" survey protocol for California clapper rail written by the USFWS (January 2000) and the widely accepted protocol for black rails developed and used by regional researchers (Evens et al 1991; Nur et al 1997; Spautz et al 2006). These protocols involve a series of surveys during the breeding season (February 1-July 31), including listening for "calls" and potentially attempting to elicit responses with pre-recorded vocalizations. This methodology may require conducting surveys prior to one week of commencement of construction so that rails can be detected while establishing nesting territories (which is the time rails are most easily detected). The surveys shall also include methods approved by the CDFG for detecting nesting burrowing owls; this methodology may require conducting surveys prior</p>	<p>Project Proponent(s) and City of Fremont Community Development Department</p>	<p>One week prior to the commencement of construction activities</p>

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
Biological Resources, Continued.			
<i>Impact BIO-1, Continued.</i>	<p>to one week of construction in order to correspond with the peak of the burrowing owl nesting season (April 15-July 15).</p> <p>If active nests are found in areas that could be directly affected or subject to prolonged construction-related noise or vibration, a no-disturbance buffer zone shall be immediately created around active nests during the breeding season or until a qualified biologist determines that all young have fledged. The size of the buffer zones and types of construction activities restricted within them will be determined through consultation with the CDFG, taking into account factors such as the following:</p> <ul style="list-style-type: none"> ■ Noise and human disturbance levels at the project area at the time of the survey and the noise and disturbance expected during the construction activity; ■ Distance and amount of vegetation or other screening between the project area and the nest; and ■ Sensitivity of individual nesting species and behaviors of the nesting birds. <p>Limits of construction to avoid an active nest shall be established in the field with flagging, fencing, or other appropriate barrier, and construction personnel shall be instructed on the sensitivity of nest areas. The biologist shall serve as a construction monitor during those periods when construction activities would occur near active nest areas to ensure that no impacts on these nests occur.</p>		
	<p>Mitigation Measure BIO-1b: Preconstruction winter burrowing owl survey.</p> <p>The project sponsor shall retain a qualified biologist, as approved by Fremont, to conduct winter burrowing owl surveys on the project area prior to construction or other project area preparation activities occurring during the non-nesting season of the burrowing owl (typically</p>	Project Proponent(s) and City of Fremont Community Development Department	Prior to construction or other project area preparation activities

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
Biological Resources, Continued.			
<i>Impact BIO-1, Continued.</i>	<p>September through January). The survey shall be conducted no more than 14 days prior to commencement of construction activities. If burrowing owls are observed using burrows during the non-breeding season, or after young have fledged following the conclusion of the breeding season, owls shall be excluded from all active burrows through the use of exclusion devices placed in occupied burrows in accordance with CDFG protocols (CDFG 1995). Specifically, exclusion devices, utilizing one-way doors, shall be installed in the entrance of all active burrows. The devices shall be left in the burrows for at least 48 hours to ensure that all owls have been excluded from the burrows. Each of the burrows shall then be excavated by hand and refilled to prevent reoccupation. Exclusion shall continue until the owls have been successfully excluded from the project area, as determined by a qualified biologist.</p>		
	<p>Mitigation Measure BIO-1c: Burrowing owl habitat replacement (if required).</p> <p>Should a nesting or resident burrowing owls be found on the project site prior to project implementation (see Mitigation Measure BIO-1a), then 6.5 acres of suitable burrowing owl habitat shall be established within the open space per pair of nesting owls or single resident owl. To accomplish this, a burrowing owl habitat management plan shall be prepared that, at a minimum, specifies the following: (1) vegetation management activities to maintain suitable burrowing owl habitat (i.e., low growing vegetation); (2) no prohibition of burrowing mammals on the site; (3) maintenance of the burrowing owl habitat on the site as a condition of the expected land donation to a public agency; and (4) biannual monitoring by a qualified biologist to ensure that suitable burrowing owl habitat is present. The long-term maintenance and monitoring of the burrowing owl mitigation habitat would be at the cost of the project proponent(s), and the protection and maintenance of the burrowing habitat would be recorded as a deed restriction so that it</p>	City of Fremont and CDFG	Prior to the issuance of grading permits

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
Biological Resources, Continued.			
<i>Impact BIO-1, Continued.</i>	<p>would remain in effect upon any future land donation. Alternatively, the project proponent(s) could purchase mitigation credits at an off-site CDFG-approved mitigation bank for burrowing owls (at a ratio of 6.5 acres per pair of nesting or resident owl identified in the development area).</p> <p>Also see Mitigation Measure BIO-6b, below, which requires vegetation management activities to maintain suitable raptor foraging habitat in the open space.</p>		
Impact BIO-2: Construction-related activities within and bordering Crandall Creek (K-line channel) could result in the loss of western pond turtles.	<p>Mitigation Measure BIO-2: Preconstruction clearance survey.</p> <p>A qualified biologist approved by Fremont shall conduct a preconstruction clearance survey for the western pond turtle. The survey area shall include all portions of Crandall Creek (K-line channel) proposed for disturbance and a surrounding 500 feet area. The survey shall be conducted within 48 hours of initial disturbance of Crandall Creek (K-line channel). Any identified western pond turtles shall be relocated (by a qualified biologist in possession of a valid Scientific Collecting Permit) to a suitable location in Crandall Creek (K-line channel) outside of the project's disturbance boundaries.</p>	City of Fremont Community Development Department	Prior to issuance of building permits
Impact BIO-3: The removal of the existing bridge over Crandall Creek (K-line channel) could result in the loss of an active maternity roost of special status bat species including pallid bat, western red bat, long-legged myotis, and fringed myotis.	<p>Mitigation Measure BIO-3: Preconstruction roosting bat surveys.</p> <p>A focused survey shall be conducted by a qualified bat biologist to determine if an active bat roost of a special-status species is present in the bridge over Crandall Creek (K-line channel). The surveys shall be conducted during the breeding season of native bat species in California (generally from April 1 through August 31). Should an active maternity roost of a special-status bat species be identified, the roost shall not be disturbed until the roost is vacated and juveniles have fledged, as determined by the biologist. Once all young have fledged, then the structure may be relocated or demolished. Additionally, if an active maternity roost is identified, or if a roost of non-breeding bats is identified, and should the structures be demolished, then replacement</p>	City of Fremont Community Development Department	Prior to the issuance of grading permits

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
Biological Resources, Continued.			
<i>Impact BIO-3, Continued.</i>	roosting habitat shall be provided, such as bat boxes. The replacement roosting habitat to be provided shall be species appropriate and subject to the approval of the CDFG.		
Impact BIO-4: Project-related construction activities have the potential to impact upland habitat potentially used by salt marsh harvest mouse for refuge.	Mitigation Measure BIO-4: Exclusionary fencing and clearance survey. Temporary exclusionary fencing shall be installed between the flood control channel and the project's disturbance boundary, in the portion of the development area north of Crandall Creek (K-line channel). The fencing shall be designed to prevent entry of salt marsh harvest mice into the project's disturbance zone. The fencing will be installed during a low tide or low flow event to maximize the potential that salt marsh harvest mice would be within the flood control channel and not using refuge habitat on the project area. A qualified biologist shall be present when the fencing is installed and shall conduct a pre-construction survey to ensure that the project's disturbance zone (within 100 feet of Alameda Creek flood control channel and north of Crandall Creek) is free of salt marsh harvest mice. The survey shall be conducted immediately preceding the commencement of construction activities or vegetation clearing.	City of Fremont Community Development Department	Immediately preceding commencement of construction
Impact BIO-5: There is a potential for salmonids to access Crandall Creek (K-line channel) from the Alameda Creek flood control channel and be harmed by the installation of the proposed subsurface barrier, construction of a new bridge, removal of the existing bridge, and installation of an outfall.	Mitigation Measure BIO-5a: Fish protection. A qualified fisheries biologist shall be present for any work occurring within the creek bed. The biologist shall implement National Marine Fisheries Service (NMFS)-approved procedures to ensure that no special-status fish species are harmed by project-related activities. At a minimum, these procedures shall include the relocation of fish from the disturbance area and the temporary placement of barriers to prevent fish from entering the disturbance zone. Other measures may be implemented upon their approval by NMFS.	City of Fremont Community Development Department	During any project construction within creek bed
	Mitigation Measure BIO-5b: Erosion control. All work on the creek banks (but outside of the creek bed) shall occur during the dry season (between May 1 and November 1).	City of Fremont Community Development Department	During any project construction within creek bed

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
Biological Resources, Continued.			
Impact BIO-6: The removal of the existing bridge, the construction of the new bridge, the installation of the outfall to Crandall Creek (K-line channel), and the construction of the subsurface wall could result in the loss or adverse effect on a federally protected wetland and/or waters of the United States.	Mitigation Measure BIO-6a: Crandall Creek Jurisdictional Delineation, Provide Replacement Wetlands at a 3:1 Ratio. Prior to the commencement of construction activities within or bordering jurisdictional areas, the project proponent shall obtain all required permits/agreements from the ACOE, CDFG, and RWCQB and comply with all specified requirements contained in those permits. As Crandall Creek (K-line channel) was not previously delineated based on access restrictions, a delineation must be conducted and verified by ACOE prior to the commencement of construction activities. It is expected that ACOE will take jurisdiction over Crandall Creek (K-line channel) and that the RWQCB and CDFG also have jurisdiction. The applicant would also be required to quantify any impacts to jurisdictional wetlands from construction of the subsurface barrier wall and the proposed bridge, and from the removal of the existing bridge, so that these wetland impacts can be permitted and mitigated. To control erosion, all work on the creek banks would occur during the dry season (Mitigation Measure BIO-5b). Although it is expected that the measures contained in the permits would feasibly mitigate the impact, they cannot be relied upon for CEQA compliance because they have not yet been issued by the resource agency and their exact content is unknown. Therefore, consistent with the requirements of CEQA, the project sponsor shall also implement Mitigation Measure BIO-6b , which requires the 3:1 replacement of jurisdictional wetlands and waters.	Project Proponent(s)	Prior to the commencement of construction activities
	Mitigation Measure BIO-6b: Implement an Open Space and Wetland Plan. Prior to approval of any final map, the project proponent(s) shall prepare and submit to the City a detailed "Open Space and Wetland Plan." The plan shall contain all required mitigation measures as specified to mitigate impacts to biological resources associated with: direct fill or	City of Fremont and California Department of Fish and Game	Prior to issuance of grading permits

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
Biological Resources, Continued.			
<i>Impact BIO-6, Continued.</i>	<p>disturbance of jurisdictional wetland and creek habitats (Impact BIO-6); the spread of invasive plant species into wetland and riparian habitats (Impact BIO-7); and the maintenance of raptor foraging habitat and any required burrowing owl habitat (Impact BIO-1). The plan shall be subject to approval by the City prior to the issuance of a grading permit. The plan would also be subject to the approval of the ACOE, RWQCB, and if required, CDFG. Coordination with the East Bay Regional Park District shall be implemented to ensure compatibility with their resource management practices. Implementation of the plan shall be incorporated into approval of the grading plan and all further project approvals, and the project proponent(s) shall provide appropriate security to ensure completion of the plan. Relevant provisions shall be recorded as a deed restriction against the property so that they remain in effect if the land is donated to another agency.</p> <p>The plan will require that (1) the extent of non-native species in Patterson Slough and other wetlands does not increase; (2) the 3:1 replacement of jurisdictional wetlands; and (3) that raptor foraging habitat be maintained in the open space area.</p> <p><i>Invasive Plant Species Monitoring</i></p> <p>The plan shall require that the extent of non-native plant species in Patterson Slough and other onsite wetlands does not increase due to project-related activities. To accomplish this goal, the plan shall detail methods for identifying and preventing the spread of invasive plant species into Patterson Slough and other wetlands from project-related landscaping and other activities. This will include:</p> <ol style="list-style-type: none"> 1. Documenting the existing plant species composition in the open space, wetlands, and Patterson Slough. At a minimum, data shall be recorded on the relative abundance of native and non-native species, species composition, and vegetative cover. This data shall serve to establish the baseline botanical conditions. 		

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
<i>Biological Resources, Continued.</i>			
<i>Impact BIO-6, Continued.</i>	<ol style="list-style-type: none"> Monitoring of the open space, wetlands, and Patterson Slough shall be conducted biannually for a minimum period of five years from the commencement of construction. The collected data shall be analyzed to determine if the extent or species abundance of non-native plant species in or bordering Patterson Slough and other onsite wetlands has increased, and if the increase may be linked to project-related activities. The plan shall include measures to be implemented in the event that the spread of invasive species is detected, including the removal of invasive/non-native species and the planting of native species. These measures would be implemented by a qualified restoration ecologist to restore the botanical condition of Patterson Slough and other onsite wetlands to their baseline condition or better. Any required restoration activities shall occur at the expense of the project proponent(s). The five years of monitoring and the implementation of any contingency measures during this period shall be at the cost of the project proponent(s). <u>Success Criteria:</u> Following the completion of the five-year monitoring period, the relative abundance of native plant species, species composition, and vegetative cover shall meet or exceed the baseline conditions. If the success criteria are not met, then the contingency measures described above would be implemented. The contingency measures shall be implemented as soon as monitoring detects that the success criteria will not likely be achieved and not necessarily at the end of the five-year monitoring period. <p><i>Wetland Replacement</i></p> <p>The plan shall require the replacement of impacted habitats under the jurisdiction of the ACOE, CDFG, and/or RWQCB at a 3:1 ratio. Given the</p>		

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
Biological Resources, Continued.			
<i>Impact BIO-6, Continued.</i>	<p>acreage of similar seasonal wetlands within agricultural fields in the proposed open space (73.552 acres), the degraded condition of these wetlands, and the presence of a shallow water table, opportunities to expand and/or enhance existing seasonal wetland habitats on the project area are available.</p> <p>In order to implement the creation/enhancement of wetland habitat onsite, the plan shall detail measures for the onsite replacement of the 0.278-acre of seasonal wetlands to be directly impacted by the proposed project at a ratio of 3:1. The plan shall specify, at a minimum, the requirements specified below. Alternatively, the project proponent(s) may purchase wetland mitigation credits (at a 3:1 ratio) at an ACOE-approved mitigation bank.</p> <ol style="list-style-type: none"> 1. the specific location of creation/enhancement sites in the open space area; 2. the quantity and species of plants to be planted; 3. planting procedures, including the use of soil preparation and irrigation (when needed); 4. methods for the removal of non-native plants; 5. a schedule and action plan to maintain and monitor the creation/enhancement areas; 6. contingency measures in the event that creation/enhancement/restoration efforts are not successful. These may include corrective grading, the removal of non-native plants, the planting of native plants, and/or the creation of additional wetland habitat; 7. at a minimum, biological monitoring of the created wetlands shall be conducted bi-annually for five years from completion of the created wetlands. An annual monitoring report shall be submitted to the City; 		

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
Biological Resources, Continued.			
<i>Impact BIO-6, Continued.</i>	<p>8. the project proponent(s) shall be responsible for the cost of all wetland creation activities, monitoring, and implementation of contingency measures. Following the five-year monitoring period, the preservation and ongoing maintenance of the wetland would be the responsibility of the project proponent. The required preservation and maintenance of the created wetland would be recorded as a deed restriction against the property.</p> <p><u>Success Criteria:</u> At a minimum, the created wetlands shall have similar hydrology and length of saturated soils to the naturally occurring wetlands in the open space, and native plant diversity at least equal to that occurring in the naturally occurring wetlands in the open space. If the success criteria are not met, then the contingency measures described above would be implemented. The contingency measures shall be implemented as soon as monitoring detects that the success criteria will not likely be achieved and not necessarily at the end of the five-year monitoring period.</p> <p>The plan shall also require collecting baseline data of the portion of Crandall Creek (K-line channel) to be temporarily disturbed and restoring this area to its pre-disturbance condition. Specifically, prior to the channel's disturbance, the plan shall detail methods for describing the plant species in the disturbance area, including the species present, the relative abundance of these species, vegetative cover, and the relative abundance of native and non-native species. This information shall define the pre-disturbance condition to which the disturbance area needs to be returned.</p> <p>Following disturbance activities within the channel, the plan shall detail methods for re-vegetated the disturbed area and preventing the spread of invasive plant species. This may include the planting of appropriate plant species and monitoring at monthly intervals for a six-month duration. If it is determined by the monitoring biologist that the channel</p>		

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
Biological Resources, Continued.			
<i>Impact BIO-6, Continued.</i>	<p>has returned to a condition equivalent to its pre-disturbance condition, then no additional measures shall be required. If the monitoring biologist determines that the area has not returned to a condition equivalent to or exceeding its pre-disturbance condition (based on the percent native/non-native plant species present, vegetative cover, and other factors), then the plan shall include corrective measures that would be implemented. These measures may include the removal of non-native species and the planting of native species. When it is determined by the monitoring biologist that the channel has returned to a condition equivalent to or exceeding its pre-disturbance condition, then no additional measures shall be necessary.</p> <p><u>Success Criteria:</u> The disturbance area has returned to a condition equivalent to or exceeding its pre-disturbance condition, based on the relative abundance of native species, percent ground cover, and plant species composition. If the success criteria are not met, then the contingency measures described above would be implemented.</p> <p>Raptor Foraging Habitat Maintenance</p> <p>The plan shall require that raptor foraging habitat is maintained in the open space area. In the absence of appropriate management activities, the open space area may become permanently covered by dense weedy vegetation. The plan shall include measures to ensure, at a minimum, that raptor foraging habitat is maintained in the open space to the extent that it currently occurs. To accomplish this goal, the plan shall describe the seasonal schedule of past disking and detail vegetation management activities to occur in upland habitats that would maintain low growing vegetation suitable for foraging raptors. These measures shall include a schedule for mowing or equivalent vegetation removal/control techniques to occur. If disking is used as a management tool, its use shall be timed not to interfere with potential nesting on the site by burrowing owls. The project proponent shall be responsible for</p>		

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
<i>Biological Resources, Continued.</i>			
<i>Impact BIO-6, Continued.</i>	<p>these management activities. The deed restriction attached to the property shall indicate that it is the responsibility of the land owner to maintain raptor foraging habitat.</p> <p><u>Success Criteria:</u> Raptor foraging habitat is maintained in the open space to the extent that it currently occurs, based on the extent and seasonal persistence of low growing vegetation.</p> <p><i>Burrowing Owl Habitat Maintenance</i></p> <p>If the protection of burrowing owl habitat is required and if the project proponent(s) fulfills this requirement in the open space (see Mitigation Measure BIO-1c), then the plan shall address the maintenance of the burrowing owl habitat, including the management activities specified in Mitigation Measure BIO-1c. The project proponent shall be responsible for these management activities. The deed restriction attached to the property shall indicate that it is the responsibility of the land owner to maintain any burrowing owl habitat in the open space required by Mitigation Measure BIO-1c.</p> <p><u>Success Criteria:</u> 6.5 acres of burrowing owl habitat is maintained in the open space per pair of nesting or resident owl identified in the development area. Suitable burrowing owl habitat shall include low growing vegetation or bare soils, ground squirrel burrows, and a prey base.</p>		

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
Biological Resources, Continued.			
Impact BIO-7: The use of invasive plant species in the landscaping of common and private lots could result in the introduction and spread of such species into nearby riparian and sensitive habitats. Residential development may further increase the extent of non-native wildlife species in the project area.	Mitigation Measure BIO-7a: Approval of landscaping plan and HOA provided information Prior to the issuance of a grading permit, the project proponent(s) shall prepare a landscaping plan consistent with Bay Friendly landscaping guidelines. This plan will be subject to review and approval by Fremont and will include a plant palette composed of non- invasive species. The landscaping plan shall also include a list of invasive plant species prohibited from being planted on the project area. This list of prohibited plants, as well as an explanation of the importance of compliance with the list, will be compiled in cooperation with a qualified restoration specialist and will be incorporated into the covenants, conditions, and restrictions (CC&Rs) for the proposed project.	Project Proponent(s) and Homeowners' Association	Prior to the issuance of grading permits
	Mitigation Measure BIO-7b: Use of appropriate waste and recycling receptacles Waste and recycling receptacles that discourage foraging by wildlife species adapted to urban environments shall be installed in common areas and parks throughout the project area developed with residential land uses and religious facilities. The types of receptacles to be used shall be approved by the City of Fremont. The HOA shall be responsible for monitoring the condition of the receptacles and for repairs or replacement of the units.	City of Fremont and Homeowners' Association	During project operation
	Mitigation Measure BIO-7c: HOA provided information regarding urban-adapted wildlife species The HOA shall supply educational information to future residents of the project regarding the importance of not feeding wildlife, ensuring that trash (containing food) is not accessible to wildlife, keeping the ground free of fallen fruit from trees and not leaving pet food outside. The material shall also stress the importance of not feeding feral cats.	Homeowners' Association	During project operation

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
Biological Resources, Continued.			
<i>Impact BIO-7, Continued.</i>	Mitigation Measure BIO-6b would be implemented to detect, and if necessary, control the spread of non-native and invasive plant species into riparian and wetland habitats that are introduced from landscaping.		
Impact BIO-9: Nighttime lighting associated with the residential development could disturb resting and foraging wildlife behavior and could potentially alter breeding cycles and nesting behavior of sensitive wildlife species.	Mitigation Measure BIO-9: Develop a lighting plan to minimize spillover. The project proponent(s) shall develop a lighting plan in coordination with a qualified biologist to eliminate spillover of light (over current levels) into Patterson Slough, Crandall Creek (K-line channel), and the Alameda Creek flood control channel. Light spillage into other portions of the open space shall also be minimized. Exterior lighting shall be low mounted, downward casting and shielded, and shall utilize motion detection systems where applicable and not spill out onto adjacent properties. The plan shall also include measures to control spillover of light into these areas from new non-adjacent light sources. Elevated lighting fixtures within 200 feet of the Alameda Creek flood control channel shall be designed to discourage their use by raptors as hunting perches. The final lighting plan shall be subject to the approval of Fremont and a City-approved biologist prior to the issuance of a grading permit. Restrictions on lighting shall be incorporated into the CC& Rs for the project to ensure that private lighting conforms to the approved lighting plan. This measure shall also apply to the future religious facility that may be built. (See also Mitigation Measure AES-7a.)	Project Proponent(s)	During project design
Impact BIO-10: Proposed residential development could have adverse effects on a riparian or sensitive habitat from increased human and domestic animal presence.	Mitigation Measure BIO-10a: Fencing design and maintenance to protect sensitive and riparian habitats. The project shall include fencing designed to prevent unattended pets from entering Alameda Creek, Patterson Slough, and Crandall Creek (K-line channel). The fencing shall be specifically designed to prevent cats from entering these nearby sensitive habitats and will incorporate appropriate features such as being buried at least 6-inch underground; the use of appropriate materials, angles, and height to prevent cats from	Project Proponent(s) and City of Fremont Community Development Department	During project construction

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
Biological Resources, Continued.			
<i>Impact BIO-10, Continued.</i>	<p>climbing over; and contain no posts where raptors could perch. The applicant may also consider the use of water barriers.</p> <p>The fencing shall be located between the edge of residential development and Crandall Creek (K-line channel) and between the portions of the residential development area bordering the levee of the Alameda Creek flood control channel. This portion of the fencing, designed specifically to prevent pets from accessing sensitive habitats, would be located north of Ardenwood Boulevard. The fencing design shall also address the future religious facility; fencing for this project component would be designed to prevent unauthorized human entry into the open space (including Patterson Slough) but would not need to specifically address the exclusion of pets (as pets would not be expected to be brought to the facility). The final fencing design shall be subject to the approval of Fremont and a City-approved biologist, and shall be subject to review by the USFWS during the expected Section 7 Consultation and by CDFG. The long-term maintenance of the fence shall be included in costs of the Home Owners Association (HOA) or other aspect of the development.</p>		
	<p>Mitigation Measure BIO-10b: HOA supplied information.</p> <p>The HOA shall supply educational information to future residents regarding not allowing cats outdoors, or other pets outdoors while unattended. The material shall discuss the importance of protecting the sensitive habitats (and associated species) that occur in or near the project area, including the Alameda Creek flood control channel, Patterson Slough, Crandall Creek (K-line channel), and wetland habitats in the open space area. The information will also indicate that dogs must be leashed while using the nearby trail along the Alameda Creek flood control channel.</p>	Homeowners' Association	During project operation

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
<i>Biological Resources, Continued.</i>			
Impact BIO-11: Light spillage and increased pets/non-native wildlife species associated with the proposed residential development could interfere with the use of the Alameda Creek flood control channel as a wildlife movement corridor.	See Mitigation Measures BIO-9, BIO-10a, and BIO-10b. These measures would address issues related to light spillage and pets/non-native wildlife that could deter native species from using the flood control channel as a movement corridor.	City of Fremont Community Development Department	During project construction and operation
Impact BIO-12: The proposed project includes the removal of trees protected by a Tree Protection Ordinance.	Mitigation Measure BIO-12: Tree removal permit and replacement In compliance with Section 4-5104 of the Tree Protection Ordinance, a permit shall be obtained for the removal of all 41 trees found to be over 6 inches DBH. As required, each tree to be removed shall be replaced with one twenty-four inch box tree of species and location approved by the City. A Tree Replacement Plan shall also be prepared which shows the location, numbers, and species of trees to be replaced, as well as measures (e.g., irrigation) necessary for the planted trees to become established. Given the acreage of habitat to be preserved (316 acres [8 acres for parkland dedication]), opportunities for the onsite replacement of trees are available.	City of Fremont Community Development Department	Prior to tree removal

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
Cultural Resources			
Impact CUL-1: Construction Activities Could Inadvertently Damage Unknown Prehistoric or Historic Archaeological Resources that could be eligible for inclusion in the National/California Registers.	<p>Mitigation Measure CUL-1a: Require Protection Measures for Cultural Resources within the Excavation Contract and Develop an Archaeological and Cultural Monitoring Plan.</p> <p>Fremont shall require the applicant to include a standard inadvertent discovery clause in the construction contract for the project, which requires that in the event an archaeological resource is discovered during construction (whether or not an archaeologist is present), all soil disturbing work within 100 feet of the resource shall cease. In the event that archaeological site is encountered during the subsurface testing or during construction, the applicant shall retain a qualified archaeologist to determine whether the resource qualifies as a historical resource or unique archaeological resource.</p> <p>If the resource is determined to be a historical resource or unique resource, the qualified archaeologist, in consultation with Fremont, shall prepare and implement an Archaeological and Cultural Monitoring Plan (ACMP) that details the rationale and procedures to be followed during monitoring and unexpected discoveries. The ACMP should include a Discovery Plan for Unanticipated Cultural Resources and a Native American Burial Plan to guide the evaluation, management and mitigation of any previously unknown significant subsurface cultural materials and skeletal remains inadvertently exposed by project's construction activities (see Mitigation Measure CUL-3). Within the ACMP, the Discovery Plan should also include the protocols for developing a find-specific Treatment Plan in the event of a significant discovery during construction in order to guide the removal, analysis, report requirements and future curation of the discovery. The implementation of any cultural resources conditions and/or protection measures mandated by Fremont and other regulatory/permitting agencies should be incorporated into the document as appropriate. The ACMP must be reviewed and approved by Fremont prior to the start of construction.</p>	City of Fremont Community Development Department	During project construction if remains found

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
<i>Cultural Resources, Continued</i>			
<i>Impact CUL-1, Continued.</i>	<p>Mitigation Measure CUL-1b: Project Archaeologist Conducts Pre-Construction Meeting.</p> <p>The project archaeologist shall conduct a pre-construction meeting for construction personnel to discuss the sensitivity of archaeological resources potentially encountered during construction.</p>	Project archaeologist	Prior to project construction
	<p>Mitigation Measure CUL-1c: Consultation with Native Americans.</p> <p>Prior to the commencement of construction, consult with interested and locally knowledgeable Native Americans concerning significant or potentially significant Native American resources. Consult and coordinate any archaeological activities with the assigned MLD in regard to Native American remains (see Impact CUL-3 and Mitigation Measure CUL-3 for further details).</p>	Project Proponent(s)	Prior to project construction
Impact CUL-3: Construction Activities Could Inadvertently Uncover Human Remains.	<p>Mitigation Measure CUL-3a: Comply with California law regarding the treatment of Native American human remains as contained in California Health and Safety Code Section 7050.5 and Section 7052 and California Public Resources Code Section 5097.</p> <p>California law recognizes the need to protect Native American human burials, skeletal remains, and items associated with Native American burials from vandalism and inadvertent destruction. The California Health and Safety Code requires that if human remains are found in any location other than a dedicated cemetery, work is to be halted in the immediate area, and the county coroner is to be notified to determine the nature of the remains. The coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or state lands (Health and Safety Code Section 7050.5[b]). If the coroner determines that the remains are those of a Native American interment, then the Native American Heritage Commission shall be consulted to identify the most likely descendants and the appropriate disposition of the remains.</p>	Project Proponent(s) and City of Fremont Community Development Department	During project construction, if necessary

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
<i>Cultural Resources, Continued</i>			
<i>Impact CUL-3, Continued.</i>	<p>In the event of the accidental discovery or recognition of any human remains in any location other than a dedicated cemetery, the following steps should be taken:</p> <ol style="list-style-type: none"> (1) There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until: <ul style="list-style-type: none"> ■ The coroner of the county in which the remains are discovered must be contacted to determine that no investigation of the cause of death is required, and ■ If the coroner determines the remains to be Native American: <ul style="list-style-type: none"> • The coroner shall contact the Native American Heritage Commission within 24 hours. • The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descended from the deceased Native American. <p>The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98, or</p> (2) Where the following conditions occur, the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance. <ul style="list-style-type: none"> ■ The Native American Heritage Commission is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 24 hours after being notified by the commission. 		

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
<i>Cultural Resources, Continued</i>			
<i>Impact CUL-3, Continued.</i>	<ul style="list-style-type: none"> The descendant identified fails to make a recommendation; or The landowner or his authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner. 		
	<p>Mitigation Measure CUL-3b: Treatment of Discovered Human Remains. Preservation of the burials in place, no disturbance, or capping of the discovery site is the preferred options for the treatment of discovered human remains. However, if protection against disturbance and/or vandalism cannot be reasonably assured, a complete systematic collection and/r excavation of any exposed artifacts shall be conducted by a qualified archeologist. The following conditions for the treatment of discovered human remains were provided by the MLD:</p> <ul style="list-style-type: none"> The project archeologist or his/her staff shall expose the burial (and associated grave objects) in the presence of the MLD, or an appointed representative. Burials shall be removed from the field by the MLD or appointed representative, and temporarily stored as a unit at the facilities on the campus of Ohlone College, in Fremont. This work shall be undertaken as part of a "Burial Services Contract" between the MLD and the project contractor. At a minimum, the project proponent shall fund the research for the archeologist to undertake a general inventory of the burial so that all artifacts and human skeletal bones can be matched to preclude loss between the time of removal and repatriation. The human remains and any associated grave goods shall be appropriately reburied at the Ohlones Indian Cemetery in the Mission San Jose District of the City of Fremont. The MLD shall 	Project archaeologist and City of Fremont Community Development Department	If/when remains uncovered

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
<i>Cultural Resources, Continued</i>			
<i>Impact CUL-3, Continued.</i>	<p>prepare the remains for reburial. However, the construction of coffins and fees associated for the use of a backhoe and operator shall be undertaken as part of the "Burial Services Contract".</p> <ul style="list-style-type: none"> ■ The use of tobacco, marijuana, alcohol, or drugs (medications exempted) is prohibited in the presence of any Native American remains discovered during the construction of the project. ■ The project archeologist shall notify the City Director of Planning of this find so as to modify and condition any future development in the area of the burial find. The project archeologist shall also prepare an Archeological Final Report of Findings to document the resources discovered on site. Three copies of the final report shall be provided to the MLD. ■ The MLD shall file the proper forms with the NAHC documenting the general location of the discovery, as well as the reburial of the remains and grave goods. 		
Geology, Soils, & Mineral Resources			
Impact GEO-1: Implementation of the project could expose people and developments to adverse effects from strong seismic ground shaking.	<p>Mitigation Measure GEO-1: Design structures and foundations in accordance with the 2007 California Building Code standards</p> <p>The California Building Code (2007) has established guidelines for seismic structural analysis for sites located near active seismic sources. As required by law, the project would be designed in conformance with current applicable residential standards for seismic stability as presented in the 2007 California Building Code, or the version in effect at the time of building permit issuance. The project sponsor shall design structures and foundations to withstand expected seismic sources in accordance with these codes as adopted by Fremont.</p>	Project Proponent(s)	During project design

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
<i>Geology, Soils, & Mineral Resources, Continued.</i>			
Impact GEO-2: Project area construction activities, such as grading and excavation, could result in soil erosion, loss of topsoil, and sedimentation.	<p>Mitigation Measure GEO-2: Develop an Erosion Control Plan and Stormwater Pollution Prevention Plan.</p> <p>The project shall comply with current San Francisco Regional Water Quality Control Board (San Francisco RWQCB) guidelines and shall adopt acceptable best management practices (BMPs) for control of sediment and stabilization of erosion on the project area (see Section 4.10, Hydrology and Water Quality, for a complete discussion of the detailed standards required by the San Francisco RWQCB and local regulatory agencies). The project shall also adopt acceptable BMPs for the protection of water quality. Development of the project area shall be dependent upon approval of an Erosion Control Plan and a Stormwater Pollution Prevention Plan consistent with the following standards and regulations as outlined below:</p> <ul style="list-style-type: none"> ■ An erosion control plan shall be prepared and implemented for the project. The plan shall be submitted to Fremont in conjunction with the project Grading Plan prior to issuance of a Grading Permit. The plan shall include locations and specifications of recommended soil stabilization techniques, such as placement of straw wattles, silt fence, berms, and storm drain inlet protection. The plan shall also depict staging and mobilization areas with access routes to and from the project area for heavy equipment. The plan shall include temporary measures for implementation during construction, as well as permanent measures. ■ A Storm Water Pollution Prevention Plan shall be developed in accordance with Mitigation Measure HYDRO-2 (see Section 4.10, Hydrology and Water Quality). ■ Fremont staff and/or representatives shall regularly inspect the project area during grading and construction to ensure compliance with the grading ordinance erosion control plan, SWPPP and grading 	Project Proponent(s)	During project design

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
<i>Geology, Soils, & Mineral Resources, Continued.</i>			
<i>Impact GEO-2, Continued.</i>	plans, as well as note any violations, which shall be corrected immediately. A final inspection shall be completed prior to tract acceptance.		
Impact GEO-3: Implementation of the project could expose people and developments to adverse effects from seismic related ground failure including liquefaction and lateral spreading.	<p>Mitigation Measure GEO-3a: Implement Soil Improvement Measures Prior to Construction.</p> <p>The specific areas requiring mitigation to reduce liquefaction susceptibility are shown in Figure 4.7-5, Soil Improvement Area. Areas recommended for mitigation have been identified at specific locations where differential settlements between improved areas and unimproved areas occur in streets or other open spaces. In two of the four areas, soil improvement shall extend to a depth of 10 feet below ground surface. In the remaining two mitigation areas, soil improvements shall extend to a depth of 20 feet below ground surface.</p> <p>Soil improvement grouting techniques would be implemented, where appropriate, to reduce the adverse effects from seismic related ground failure including liquefaction and lateral spreading. Grouting techniques include compaction, permeation, deep mixing, chemical, and jet grouting. However, deep mixing using large augers to introduce cement grout and mix with soil is likely the most effective grouting technique for this location.</p> <p>The project proponent(s) shall coordinate with ACWD prior to implementing any plans to implement these soil improvement measures in order to ensure impacts to groundwater resources are minimized.</p>	Project Proponent(s), under the direction of the project geotechnical engineer and Alameda County Water District	Prior to construction
	<p>Mitigation Measure GEO-3b: Construct Soil-Concrete Mix Cut-off Wall at Property Line.</p> <p>The project proponent(s), under the direction of the project geotechnical engineer, shall construct a 5-foot wide soil-concrete mix cut-off wall extending to a depth of 25 feet along the northwestern property line, adjacent to Crandall Creek and Alameda Creek, to prevent lateral spreading in the event of an earthquake (see Figure 4.7-5).</p>		

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
<i>Geology, Soils, & Mineral Resources, Continued.</i>			
<i>Impact GEO-3, Continued.</i>	<p>There are two options concerning how the cut-off wall would cross Crandall Creek (K-line Channel) where the creek diverts northeastward.</p> <ul style="list-style-type: none"> Option 1. As the cut-off wall approaches the creek, an angle-drilling method can be used so that the wall would go completely underneath the channel. Option 2. A second option would be to extend the cut-off wall along the southern bank of the creek towards the bridge, stopping the wall before it reaches the bridge. The cut-off wall would then start again on the northeastern bank and continue to run along neighborhood cluster 7. <p>Neither of these options would disrupt the creekbed or require dewatering of the creek. Cut-off walls have the potential to disrupt groundwater flow. However, due to the flatness of the site and the tidal influenced nature of the creek, groundwater would be able to flow around and under the wall (see Section 4.10, Hydrology and Water Quality for a discussion of groundwater impacts). Additionally, soil-cement mixing, the likely construction method to be used for the cut-off wall, does not require dewatering of groundwater. Biological impacts associated with this mitigation measure are discussed in Impact BIO-5.</p> <p>The construction of either option of a soil-concrete mix cut-off wall will reduce the magnitude of lateral spreading affecting the project site. As noted in Section 4.7.1, a near continuous liquefiable layer at between 8 and 22 feet below ground surface was discovered on the project area. The soil-concrete mix cut-off wall constructed adjacent to Crandall Creek (K-line channel) and Alameda Creek will reduce lateral spreading towards Alameda Creek. Without the cut-off wall in place, the lateral spreading is expected to extend several hundred feet beyond the edge of Alameda Creek.</p>		

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
<i>Geology, Soils, & Mineral Resources, Continued.</i>			
<i>Impact GEO-3, Continued.</i>	<p>Mitigation Measure GEO-3c: Utility design for the project shall incorporate shut-off valves, flexible utility connections, utility mitigation structures and other techniques to protect the system from settlement related impacts.</p> <p>The project proponent(s) shall implement special methods of backfilling for the excavation of utility trenches below the water table. In addition, the use of geotextile to prevent mixing will help with eventual settlement in the utility trenches. Protection of gravity-flow utilities is also required from settlement impacts by designing the utilities with sufficient slopes. To protect other utilities from settlement related impacts, the project applicant shall incorporate shut-off valves, flexible connections or other utility mitigation structures into the utility design.</p>	Project Proponent(s)	During project design
Impact GEO-4: Project development would be located on expansive soils that could create a risk to life and property.	<p>Mitigation Measure GEO-4: Soil Removal or Improvement.</p> <p>The following measures shall be used where appropriate under the direction of the geotechnical engineer-of-record to mitigate the potential impact of expansive soils:</p> <ul style="list-style-type: none"> ■ Conduct a detailed site geotechnical analysis to identify locations of potentially expansive soils. ■ Design and construct structures to withstand expected stresses by the implementation of the following, as appropriate: <ul style="list-style-type: none"> • Minimize use of slab-on-grade floors; support buildings and slabs on non-expansive materials; • Chemically treat expansive materials to reduce expansion potential; • Avoid sitting structures across soil materials of substantially different expansive properties; • Extend foundations below the zone of seasonal moisture change. The project proponent(s) shall coordinate with ACWD 	Project Proponents(s) and Alameda County Water District	During project construction, if necessary

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
<i>Geology, Soils, & Mineral Resources, Continued.</i>			
<i>Impact GEO-4, Continued.</i>	<p>prior to implementing any plans to chemically treat expansive soils in order to ensure impacts to groundwater resources are minimized;</p> <ul style="list-style-type: none"> • Utilize special bending resistant design; • Utilize post-tensioned slab foundations designed to accommodate expansive soil conditions; and • Prevent accumulation of surface water adjacent to buildings. 		
Greenhouse Gas Emissions			
<p>Impact GHG-1: The project would potentially result in a substantial net increase in greenhouse gas emissions, resulting in a cumulative impact on global climate change.</p>	<p>Mitigation Measure GHG -1: Incorporation of additional green building measures.</p> <p>BAAQMD provides techniques which would further reduce greenhouse gas emissions. Many of these techniques have already been incorporated into the project. The following additional BAAQMD mitigation measures shall be applied to the project to reduce CO₂ emissions:</p> <ul style="list-style-type: none"> ■ Plant shade trees within 40 feet of the south side or within 60 feet of the west side of properties (see Mitigation Measure AQ-1a); ■ Require smart meters and programmable thermostats in residential and religious facilities; and ■ Require installation of recycled water and/or greywater use (see Mitigation Measure PU-3b); and ■ Require installation of energy-efficient ceiling/whole-house fans (see Mitigation Measure AQ-1a). 	Project Proponent(s)	During project design

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
Hazards and Hazardous Materials			
<p>Impact HAZ-1: Unknown contaminants from off-site soil borrowing areas, as well as agricultural chemicals in the soil could affect the health of residents and routine users of the project area.</p>	<p><u>Mitigation Measure HAZ-1a:</u> Selection of Clean Fill Materials.</p> <p>The City shall verify, through documentation provided by the fill source, that the selected fill material is appropriate for the project's proposed residential and institutional development. Fill documentation shall include detailed information on the previous use of the land from where the fill is taken, whether an environmental site assessment was performed and its findings, and the results of any contaminant testing performed. The City shall ensure that the provided documentation is signed by an appropriately licensed (California-registered) individual.</p> <p>If such documentation is not available or is inadequate, the City shall require the project proponent(s) to conduct sampling of the fill material for potentially harmful contaminants. Analysis of the fill material shall be conducted by a qualified hazardous material specialist. When possible, representative samples shall be collected at the fill source area while the potential fill material is still in place, and analyzed prior to removal from the source area. Detectable amounts of contaminants within the fill material shall be evaluated for risk in accordance with the California Human Health Screening Levels (CHHSLs) used as the remediation goals of the project area (see Mitigation Measures HAZ-1b and HAZ-1c).</p> <p>Information on the physical soil characteristics of fill material is required to be included as part of the building permit application under Chapter 4 of the City's Municipal Code (see Section 4.7, Geology, Soils & Mineral Resources). Verification that the selected fill material is clean shall be conducted in conjunction with the required engineering geological and soils investigations as part of the City's permitting process.</p>	<p>City of Fremont Community Development Department</p>	<p>Prior to the start of any earthmoving activities</p>

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
<i>Hazards and Hazardous Materials, Continued.</i>			
<i>Impact HAZ-1, Continued.</i>	<p>Mitigation Measure HAZ-1b: Use Bioremediation Techniques to Treat Contaminated Soil.</p> <p>All contaminated soils in the project area, including soils imported from off-site, shall be treated to meet levels consistent with the CHHSLs established by the U.S. EPA. The project proponent is in the process of testing a microbial solution that has been shown to enhance soil fertility and the microbial degradation of pesticides. It has not been previously tested on toxaphene, but has been effective on similar types of pesticides.</p> <p>A portion of site 1 is currently under treatment. The remedy involves disking the soil and incorporating low nitrate manure and straw. At the same time, the disked soil is sprayed with a microbial solution, TerraBella. The soils are irrigated on a bi-weekly basis to maintain soil conditions conducive for remediation (i.e., moisture in the soil). This stimulates the growth of microbes such that they biodegrade the pesticides in the soil. Repeated applications may be required to reduce the highest concentrations to below the cleanup goal of 460 mg/kg.</p> <p>The progress of the bioremediation strategy is assessed approximately every three months by the contracted remediation company, Stantec Consulting Corporation. A 1-acre site within the remediation area has been established as a control site to cross-check the results of the remediated soils against the existing conditions. The success of the bioremediation technique is expected to be determined within six months to one year. Complete remediation of site 1 is expected to occur by the first quarter of 2011. Should the bioremediation strategy prove to be unsuccessful, the alternatives listed under Mitigation Measure HAZ-1c will be explored as remediation options. However, these alternatives have not been reviewed under CEQA and would require subsequent environmental review if they are pursued.</p> <p>Prior to the issuance of grading or building permits, the City shall coordinate with a regulatory agency for the oversight and/or approval of</p>	Project Proponent(s)	Prior to the start of any earthmoving activities

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
<i>Hazards and Hazardous Materials, Continued.</i>			
<i>Impact HAZ-1, Continued.</i>	<p>the results of the remediation of the project area. Lead responsibility for remediation depends on the proposed use of a parcel, the character of waste contaminants, and the need for site monitoring. Due to the size of the project area, the type of contamination on site, and proposed residential development of the project, the DTSC would be the most likely regulatory agency to approve the remediation work conducted on the project site. The RWQCB would be the other potential lead oversight agency for the project area. Determination of lead oversight shall be selected through internal coordination between the agencies and the City.</p> <p>The project proponent(s) shall submit any required remedial action plans and/or risk assessment reports (i.e., Remedial Action Plan [RAP] or Human Health Risk Assessment [HHRA]) to the oversight agency to demonstrate that there are no risks to workers and local residents. These reports shall be prepared in accordance with the applicable standards assigned by the oversight agency and/or government codes.</p> <p>Only the proposed bioremediation method has been reviewed in this Final EIR. All current remediation work will be subject to regulatory oversight and approval. Additional health risk assessments and/or remediation action work plans may be required by the oversight agency prior to the start of construction.</p>		
	<p>Mitigation Measure HAZ-1c: Complete Environmental Review of Alternative Mitigation Techniques Should Bioremediation Be Infeasible. Should the bioremediation strategy prove to be unsuccessful, the alternatives listed below will be explored as remediation options. Because all of these options involve substantial additional grading and are not well defined, all of the options listed below will be subject to additional environmental review should any one of these options be selected as the remediation measure.</p>	City of Fremont Community Development Department	Prior to the start of any earthmoving activities

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
<i>Hazards and Hazardous Materials, Continued.</i>			
<i>Impact HAZ-1, Continued.</i>	<p>Alternative 1a – Excavation and Off-Site Disposal to a Permitted Facility</p> <p>As in the case of all the excavation options, excavation and off-site disposal to a permitted facility would meet site remedial action objectives (RAOs) and provide a clean site for redevelopment. However, all of the excavation options would involve substantial additional environmental impacts. This alternative requires the excavation of approximately 80 acres of the proposed site 1 residential development to a depth of up to 2.5 to 3 feet (approximately 235,000 cubic yards (CY) or 300,000 tons), soil transport, disposal fees, and placement of clean fill within the entire remediation area.</p> <p>Prior to excavation and transport a HHRA would need to be conducted to demonstrate that there were no risks to workers and local residents. Remediation would require confirmation samples from excavations within remedial areas to limit the volume removed and verify that cleanup criteria have been met. Excavation would include the use of heavy equipment such as excavators, loaders, backhoes, bobcats, and covered trucks and would include stockpiling, segregating, and staging.</p> <p>Excavation operations would generate dust emissions and will require dust mitigation. Examples of mitigation measures would include application of water and dust suppressants helps to control airborne particles. Other forms of dust control may be required during excavation, and workers may be required to alter or limit soil movement procedures, use personal protective equipment/respirators, and implement decontamination procedures to reduce potential exposure to COCs and spreading of contaminants.</p> <p>Truck cleaning would consist of dry brushing after loading and using wheel grates to knock off excess dirt upon exiting the site. Soil loads in trucks will be wetted slightly, leveled, and covered to minimize soil falling onto roadways. Transportation routes, times of work, and dust</p>		

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
<i>Hazards and Hazardous Materials, Continued.</i>			
<i>Impact HAZ-1, Continued.</i>	<p>controls would be chosen to reduce impacts to residential and other sensitive areas during removal and transport over public right-of-way (ROW).</p> <p><i>Alternative 1b – Excavation and Off-Site Disposal to a Nearby Development Parcel</i></p> <p>Excavation and off-site disposal to a nearby development parcel would meet RAOs and provide a clean site for redevelopment. Alternative 1b would eliminate soil disposal costs, reduce transport costs, but would require human and environmental health risk assessments to determine whether the soil represented a risk to the human health or the environment. In addition, environmental regulations typically limit the ability to move contaminated soils to a non-permitted, uncontaminated site. Therefore, actual implementation of this remedy may be significantly hindered by regulatory and legal hurdles associated with obtaining permission to move the waste, and determining long-term ownership of the waste and responsibility for monitoring and maintaining any cap that might be put in place to prevent human exposure to the soil.</p> <p>All excavation activities described in Alternative 1a would also be required for Alternative 1b. In addition, the site receiving the waste would be required to build a lined landfill cell to receive the waste, cap the waste, and maintain the integrity of the cap. Prior to excavation and transport a human health risk assessment would need to be conducted to demonstrate that there were no risks to workers and local residents.</p> <p><i>Alternative 1c – Excavation and Placement in Open Space Areas with a Vegetative Cover</i></p> <p>The excavation and on-site placement within open space areas with a vegetative cover would require a risk assessment demonstrating that on-site placement was protective of human and environmental health prior to implementation. Once regulatory approval was granted, implementation would consist of removing and transporting impacted</p>		

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
<i>Hazards and Hazardous Materials, Continued.</i>			
<i>Impact HAZ-1, Continued.</i>	<p>soil to an open space parcel on-site (site 3), and covering the soil with a vegetative cover to control dust and mitigate movement of the soil. It is not clear whether the regulatory agencies would accept placement of impacted soil in open space areas without a soil cap, nor whether public agencies accepting the open space would approve the disposal of fill on the site. Guidance for on-site placement of contaminated soil typically requires a soil cap to prevent soil movement and minimize any potential human exposure.</p> <p>The open space areas within site 3 contain wetlands that shall not be disturbed during remediation activities. As such, approximately 80 acres of open space is available for soil placement and excavation. The placement of material under this alternative assumes a minimum 10-foot setback from all wetland areas. A detailed hydrologic and biologic analysis would be required.</p> <p>All excavation activities described in Alternative 1a would also be required for Alternative 1c.</p> <p><i>Alternative 1d – Excavation and Placement in Open Space Areas with a Soil Cap</i></p> <p>Excavation and placement in open space areas with a soil cap alternative would meet site RAOs by removing impacted soil from the redevelopment areas. This alternative would reduce costs for transport and disposal, but would require long-term monitoring and maintenance of the soil cap. In addition, a human and environmental health risk assessment would be required.</p> <p>Implementation would include excavation of soil from remedial areas, removal of clean soil from open space areas, placement of impacted soil into excavations in the open space, and construction of a 2-foot high cap over contaminated soils with clean imported fill or native soil excavated</p>		

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
<i>Hazards and Hazardous Materials, Continued.</i>			
<i>Impact HAZ-1, Continued.</i>	from additional sections of site 3. Alternative 1d would include a monitoring program to ensure integrity and maintain the cap. All excavation activities described in Alternative 1a would also be required for Alternative 1d.		
Impact HAZ-2: During the earthmoving and grading work, construction workers may be exposed to contaminated soil, which could affect their health.	Mitigation Measure HAZ-2a: Site-Specific Health and Safety Plan. A Site-Specific Health and Safety Plan for construction workers shall be prepared by the project sponsor and approved by Fremont Fire Department prior to the start of any earthmoving activities associated with the alternative remediation strategies. The site-specific Health and Safety Plan shall be implemented by the construction contractors during remediation work. The Site-Specific Health and Safety Plan shall be prepared in accordance with the California Division of Occupational Safety and Health (CAL/OSHA) Standards identified as part of Title 8 of the California Code of Regulations.	Project Proponent(s) and the Fremont Fire Department	Prior to the start of any earth moving activities
	Mitigation Measure HAZ-2b: Site-Specific Air Quality Monitoring Plan Prior to the start of any earthmoving activities associated with the alternative remediation strategies, an Air Quality Monitoring Plan shall be prepared by the project proponent(s) and approved by the regulatory oversight agency reviewing the remediation of the project area. The Air Quality Monitoring Plan shall be implemented by the construction contractors during remediation work in order to prevent toxic dust in the air from reaching levels that are hazardous to the workers and/or surrounding residents. The Air Quality Monitoring Plan shall be prepared in accordance with the CAL/OSHA Standards identified as part of Title 8 of the California Code of Regulations.	Project Proponent(s) and the City of Fremont Community Development Department	Prior to the start of any earthmoving activities

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
Hydrology and Water Quality			
<p>Impact HYDRO-2: Construction activities would alter the existing drainage patterns resulting in erosion, sedimentation, and contamination of stormwater runoff which could degrade water quality.</p>	<p>Mitigation Measure HYDRO-2: Prepare and implement an erosion control plan and a Storm Water Pollution Prevention Plan (SWPPP) incorporating Stormwater Best Management Practices (BMPs).</p> <ul style="list-style-type: none"> The project shall comply with current San Francisco Bay Regional Water Quality Control Board guidelines and shall adopt acceptable best management practices (BMPs) for control of sediment and stabilization of erosion in the project area. The project shall also adopt acceptable BMPs for the protection of water quality. Development of the project area shall be dependent upon approval and implementation of an Erosion Control Plan and a Stormwater Pollution Prevention Plan. An erosion control plan using BMPs for control of sediment, stabilization of erosion, and protection of water quality shall be prepared and implemented for the project. The plan shall be submitted to the City of Fremont in conjunction with the project Grading Plan prior to issuance of a Grading Permit. The plan shall include locations and specifications for soil stabilization techniques, which shall include but not be limited to measures such as placement of straw wattles, silt fence, berms, and storm drain inlet protection. The plan shall also depict staging and mobilization areas with access routes to and from the site for heavy equipment, as further described in Mitigation Measure TC-2. The plan shall include temporary measures to be implemented during construction, as well as permanent measures including re-vegetation. Permanent measures shall be consistent with the Patterson Slough and Wetlands Plan described in Mitigation Measure BIO-6. 	Project Proponent(s) and the City of Fremont Community Development Department	Prior to the start of any earthmoving activities

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
<i>Hydrology and Water Quality, Continued.</i>			
<i>Impact HYDRO-2, Continued.</i>	<ul style="list-style-type: none"> Fremont staff and project representatives shall inspect the project area during grading and construction to ensure compliance with the grading ordinance and plans, as well as note any violations, which shall be corrected immediately. A final inspection shall be completed prior to tract acceptance. Elements of this plan may be incorporated into the Stormwater Pollution Prevention Plan (SWPPP), where applicable. 		
Impact HYDRO-5: Construction grading activities associated with the development of the project could intrude into the groundwater table and substantially degrade groundwater quality.	<p>Mitigation Measure HYDRO-5a: Decommission groundwater wells.</p> <p>Prior to the issuance of grading or other construction permits, the project proponent(s) shall consult with the ACWD for the proper decommissioning of well No. 26 and obtain any required permits from the City and ACWD. Consultation with ACWD shall also occur should construction activities uncover any of the wells that were undetectable during the previous surveys of the project area.</p>	Project Proponent(s) and Alameda County Water District	Prior to the issuance of building permits
	<p>Mitigation Measure HYDRO-5b: In the event that groundwater is encountered during construction activities, the project proponents(s) shall implement the following mitigation measures.</p> <p>In the event that groundwater is encountered during construction activities, the project proponent(s) shall consult with the City of Fremont and the ACWD and shall obtain any required permits from the City and ACWD. Dewatering measures shall conform with the following:</p> <ul style="list-style-type: none"> Any dewatering required during construction shall be contained on-site. No discharge to an adjacent water body shall be allowed. Discharge may be spread on-site to be absorbed by adjacent areas. Engineering measures shall be designed to contain the area where groundwater is intruded to avoid and minimize sediments and pollutants from entering the groundwater table. The engineering measures typically include Best Management Practices (BMP) such as: 	Project Proponent(s), the City of Fremont, and the Alameda County Water District	In the event that groundwater is encountered during construction activities

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
<i>Hydrology and Water Quality, Continued.</i>			
<i>Impact HYDRO-5, Continued.</i>	<ul style="list-style-type: none"> • Install diversion ditches, berms, and wattles around the excavated areas to minimize intrusion into the trenches; • Provide equipment fueling and maintenance locations away from infiltration areas; • Install a silting basin and sedimentation pond during construction; and • Frequent inspection of implemented BMPs. <p>These measures shall be prepared in accordance with the requirements of Fremont, ACWD and state regulations regarding groundwater quality protection during construction activities.</p>		
Impact HYDRO-9: The project would develop land that is located within areas of projected tidal inundation due to sea level rise, which would place people and structures within a flood hazard associated with long-term sea level rise.	<p>Mitigation Measure HYDRO-9: Levee Improvements for Future Sea-Level Rise.</p> <p>Improvements along Crandall Creek (K-line channel) shall be designed to allow for future increases in levee height to protect against higher sea level rise to 2100. Project design elements shall include providing adequate protection for residents of the project area from future water level increases along the creek.</p>	Project Proponent(s)	During project design

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
<i>Hydrology and Water Quality, Continued.</i>			
Impact CUM HYDRO-1: The project in combination with other projects in the surrounding areas would develop land that is located within areas of projected tidal inundation due to sea level rise, which could expose people and structures to flood hazards associated with long-term sea level rise past 2050.	Mitigation Measure CUM HYDRO-1: Levee Improvements for Future Sea-Level Rise. Implement Mitigation Measure HYDRO-9 , which requires improvements along Crandall Creek (K-line channel) shall be designed to allow for future increases in levee heights to protect against higher sea level rise to 2100. Project design elements shall include providing adequate protection for residents of the project area from future water level increases along the creek.	Project Proponent(s)	During project design
Noise and Vibration			
Impact NOI-2: Increased traffic noise from Ardenwood Boulevard and Paseo Padre Parkway, including future traffic generated by the project, and from trains along the UPRR tracks, would expose future residents and individuals to indoor noise levels that exceed 45 Ldn.	Mitigation Measure NOI-2: Noise Reduction Construction Techniques Prior to the issuance of building permits for development in the project area, an acoustical analysis shall be prepared to quantify interior noise levels for the proposed buildings in the project area and to specify construction techniques required to reduce interior noise levels throughout the home to 45 Ldn and to reduce maximum noise levels (those exceeded 1 percent of the time) to 50 dBA for bedrooms and 55 dBA for other habitable rooms. The analysis shall substantiate that the indoor noise standards will be satisfied based on the level and frequency content of the exterior noise and the sound level transmission loss provided by the building shell, and the consultant shall certify that the construction plans incorporate the required noise reduction techniques. Mechanisms to reduce interior noise are well established and may include acoustically rated windows, sound-rated wall construction, etc. This reduces this impact to a less-than-significant level.	Project Proponent(s) and the City of Fremont Community Development Department	During project design and prior to issuance of building permits

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
Noise and Vibration, Continued.			
Impact NOI-4: Construction activities would generate a temporary increase in noise at existing residences.	Mitigation Measure NOI-4a: Construction Noise Reductions Measures Prior to the issuance of grading permits, the following measures shall be incorporated into the construction plan for the project. <ul style="list-style-type: none"> ■ Designate Site Monitor for noise complaints and inquires on construction activities. ■ When available and feasible, require the use of electric powered equipment in lieu of gasoline, diesel, or pneumatic powered tools. ■ Where feasible, install temporary solid noise barriers between the construction activities (activity equipment use, diesel generators, etc.) and existing adjacent development. ■ Comply with Designated Construction Hours: <ul style="list-style-type: none"> • Monday – Friday: 7AM to 7 PM • Saturday and Holidays: No regular Construction activities allowed. City Building Official may consider allowing construction activities consistent with the Fremont Municipal Code hours of construction on a case-by-case basis. • Sunday: no construction activity allowed. 	Project Proponent(s) and the City of Fremont Community Development Department	Prior to the issuance of grading permits
	Mitigation Measure NOI-4b: Designated Truck Routes for Construction Submit a traffic control plan to the City of Fremont that designates construction trucks shall travel to and from the project area using a modified temporary truck route of SR 84 and Paseo Padre Parkway between SR 84 and the site. Paseo Padre east of the site, Ardenwood Boulevard, excepting site frontage access, and Decoto Road shall be restricted from construction truck travel.	Project Proponent(s) and City of Fremont	Prior to the issuance of grading permits

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
Noise and Vibration, Continued.			
Impact NOI-5: Soil stabilization work, grading and compaction during construction of the project could temporarily expose individuals and structures to excessive groundborne vibration.	<p>Mitigation Measure NOI-5: Construction Vibration Control Measure.</p> <p>Prior to the issuance of grading permits, the following measure shall be incorporated into the construction plan for the project.</p> <ul style="list-style-type: none"> The grouting technique should not be used within 10 feet of the levees of the Alameda Creek flood control channel unless field tests establish that a closer distance complies with the 0.80 ips PPV criterion. <p>As the grouting technique would have the least impact on noise and vibration and can be used in the closest proximity to the levees and occupied homes, it is the preferred soil improvement method for this project. Refer to Section 4.7 Geology, Soils & Minerals for further discussion of the grouting technique.</p>	Project Proponent(s)	Prior to the issuance of grading permits
Impact NOI-6: The project would expose individuals to groundborne vibration above 80 VdB from UPRR operations.	<p>Mitigation Measure NOI-6a: Vibration Setback</p> <p>An 80-foot vibration setback from the UPRR tracks shall be maintained for all structures built for human occupation. The setback shall be measured from the centerline of the tracks.</p>	City of Fremont Community Development Department	Prior to the issuance of building permits
	<p>Mitigation Measure NOI-6b: Detailed Vibration Study</p> <p>Prior to the issuance of building permits for development in the project area, a detailed vibration design study shall be completed to determine more precisely the ground vibration levels and frequency content along the UPRR tracks and to confirm appropriate design to limit interior vibration levels to 80 VdB</p>	Project Proponent(s)	Prior to the issuance of building permits

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
Public Utilities and Energy			
Impact PU-2: Implementation of the project could increase the magnitude of future water supply shortages in the ACWD service area under critical dry year and multiple dry year conditions.	Mitigation Measure PU-2: Funding of Additional Groundwater Banking. The project proponent shall fund the acquisition (by ACWD) of additional recovery capacity of dry year supplies from the Semitropic Groundwater Banking Program (Semitropic). Under the existing banking agreements with Semitropic, ACWD is limited to a maximum recovery rate of 13,500 af/yr during critically dry years. The purchase of up to 300 af/yr (currently estimated at approximately \$150,000) of additional capacity to accommodate the necessary increase in recovery capacity, would mitigate shortage impacts during dry year conditions and multiple dry year conditions caused by the project. Because ACWD is already participating in the Semitropic program, and the banking program is fully permitted and operational, no new permits will be required for ACWD to increase its Semitropic recovery capacity by 300 af/yr. Prior to payment of funds for additional Semitropic capacity, ACWD shall further refine estimated demands to account for water savings of the any revised project design and ACWD conservation programs. If Semitropic recovery capacity is not available for purchase at the time the project moves forward, or if ACWD determines that capacity purchased from Semitropic is not sufficiently reliable in dry years, then ACWD will require an alternative mitigation, with equivalent savings in water use or increase in water supply, to mitigate the impact of the project on dry year water supply. Alternative mitigation may include: (1) the acquisition of a new water supply, and/or (2) investment in district-wide conservation programming (above and beyond that which is planned by ACWD).	Project Proponent(s) and Alameda County Water District	Prior to the issuance of building permits
Impact PU-3: Implementation of the project would increase the demands on the District's potable water system.	Mitigation Measure PU-3a: Recycled Water Distribution System. The project will be required to accommodate the future use of recycled water by installing a separate, non-potable distribution system (i.e. "purple pipe") for landscape irrigation needs of all parks, religious facilities, and other large areas with irrigated landscaping. This non-potable distribution system shall extend to all irrigated landscape areas	Union Sanitation District, Alameda County Water District, and the City of Fremont Community Development Department	During project design

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
Public Utilities and Energy, Continued.			
<i>Impact PU-3, Continued.</i>	<p>throughout the project and connect to the new recycled water transmission pipeline. In the interim period before recycled water becomes available, this separate irrigation distribution system may be supplied by potable water from ACWD's distribution system. Final project utility plans will be required to show the proposed recycled water piping within the planned streets. Adequate clearances from other utilities and improvements in accordance with State and ACWD standards will be required. Given the required clearance for utilities, changes to the project layout and/or street widths may be necessary in order to accommodate the recycled water system along with the other utility systems needs to serve the project. The future use of recycled water for landscaping and irrigation will substantially reduce the potable water demands of the project.</p> <p>A recycled water trunk line is planned to be extended along Union City Boulevard from the Alvarado Treatment Plant in Union City to the project area. It is not known exactly what entity (USD, ACWD, or other) will install the pipeline or when this will occur. To accommodate this system, a new recycled water pipeline would be constructed in Ardenwood Boulevard, and a new recycled water pipeline would be constructed on-site and used in the future to irrigate selected landscaped areas. These pipelines would be used to serve the project area with potable water through connections with the potable water distribution system until recycled water becomes available. The recycled transmission pipeline may be required to extend from Paseo Padre Parkway to north of Alameda Creek; however the project would not create the need for this extension. However, at this time it is not known whether this crossings needs to occur and therefore this action would undergo separate environmental review if it is required by ACWD.</p>		
	<p>Mitigation Measure PU-3b: Implement Water Conservation Measures throughout the Project.</p> <p>The project proponent shall use the latest technologies in water efficient</p>	Project Proponent(s)	During project design and construction

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
Public Utilities and Energy, Continued.			
<i>Impact PU-3, Continued.</i>	<p>plumbing design and installation, plumbing fixtures and irrigation systems in both residential and non-residential development. Water efficient plumbing fixtures include high efficiency toilets, dishwashers, clothes washers, water heaters, showerheads, and faucet aerators. Water efficient irrigation systems include weather-based irrigation-controllers and drip irrigation systems for non-turf areas.</p> <p>The landscape design of all neighborhood parks and landscaped areas shall be prepared in accordance with Bay Friendly Landscape Guidelines, which include best management landscaping practices that conserve water. Bay Friendly Landscape Guidelines water conservation strategies include:</p> <ul style="list-style-type: none"> ■ Minimum 75 percent use of native and drought tolerant plant material; ■ Installing a maximum 10 percent of total front yard and private park areas as irrigated lawn; ■ Installation of recycled water and/or greywater collection systems; ■ Installing dedicated meters to monitor landscape water use; and ■ Conformance with the City's Water Efficiency Landscape Ordinance. 		
Impact PU-4: The proposed residential development would generate additional solid waste, which could affect Fremont's ability to meet the requirements of AB939 related to the reduction of solid waste disposal.	<p>Mitigation Measure PU-4: Develop a Solid Waste Disposal Plan. Prior to the issuance of building permits, the project sponsor shall provide the Fremont Environmental Services Division a Solid Waste Disposal Plan that identifies measures to be implemented to achieve 75 percent waste reduction/diversion goals. The solid waste disposal plan shall include the following:</p> <ul style="list-style-type: none"> ■ During construction, builders and all subcontractors shall seek to reduce the amount of waste materials generated by reusing and recycling building materials as required by City law, 100 percent of the asphalt and concrete must be reused or recycled. Additionally, at least 50 percent of the remaining construction debris must be 	Project Proponent(s) and the Fremont Environmental Services Division	Prior to the issuance of grading permits

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
<i>Public Utilities and Energy, Continued.</i>			
<i>Impact PU-4, Continued.</i>	<p>reused or recycled. Before the issuance of building permits, the project shall submit a Construction & Demolition Debris Waste Handling Plan per the City's Waste Handling Guidelines, which shall specify which materials will be reused, recycled or landfilled during the construction of the project. The plan shall identify each type of debris item and provide the name of each facility/service provider to be used for the proper disposal or recycling of these items. Recycling procedures will include recycling metals, lumber, asphalt, concrete, roofing materials, corrugated cardboard, wallboard, and floor treatments. It is recommended that contractors separate and store reusable building materials on site. The plan must receive approval by Integrated Waste Management staff prior to building permit issuance. After the construction of the project is complete, a Final Debris Diversion and Disposal Report will be required by Fremont.</p> <ul style="list-style-type: none"> ■ In accordance with Fremont's Waste Handling Guidelines (2009) (mandated by Fremont's Municipal Code), the project shall include adequate, accessible areas for collecting and loading recyclable materials. Final building plans shall include provisions for both interior and exterior storage areas for recyclables, subject to City review prior to final project approval. Project plans that clearly delineate these areas shall be submitted to the Planning Department for review and approval prior to issuance of a building permit. ■ The HOAs shall be responsible to ensure that the collection of all recycle bins and their proper disposal is conducted on a consistent and timely basis. New residents shall be informed and receive orientation information and/or informational literature regarding available recycling practices and procedures. This shall also include organic waste composting. 		

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
Public Utilities and Energy, Continued.			
<i>Impact PU-4, Continued.</i>	Prior to the issuance of building permits to Fremont, the project sponsor must prove that the proposed Solid Waste Disposal Plan achieves a 75 percent waste reduction/diversion goal.		
Transportation and Circulation			
Impact TC-2: Construction activities including construction trip travel on local roadways may require temporary lane closures and truck travel on local roadways that could negatively affect traffic flow.	<p>Mitigation Measure TC-2a: Implement a Construction Transportation Management Plan (TMP).</p> <p>The project proponent shall develop a Construction Transportation Management Plan (TMP) to address construction traffic, traffic delays, parking and equipment staging during construction that shall be implemented by the project contractor(s). The project contractor(s) shall be required to implement, at a minimum, the items and requirements listed below.</p> <ul style="list-style-type: none"> ■ A set of comprehensive traffic control measures, including scheduling of major truck trips and deliveries to avoid peak traffic hours (7 AM to 9 AM and 4 PM to 6 PM), detour signs if required, lane closure procedures, signs, and cones for drivers consistent with approved construction hours. Access for construction vehicles shall be limited to Paseo Padre Parkway via SR-84. ■ Notification procedures for adjacent property owners and public safety personnel regarding when major deliveries, detours, and lane closures will occur, including notification at least 72 hours in advance. ■ Specific location of on-site construction staging and parking areas for materials, equipment, and vehicles, including construction worker parking. The plan shall specify the number of employees expected to travel to the site by shift and construction phase, number and type of vehicles to be parked on the site, and areas required for material storage. Construction staging and parking areas shall be located on site 1 or not within 500 feet of Patterson 	Project Proponent(s)	Prior to the issuance of grading permits

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
Transportation and Circulation, Continued.			
<i>Impact TC-2, Continued.</i>	<p>Slough or any wetland area subject to review and approval by the City.</p> <ul style="list-style-type: none"> Haul routes for movement of construction vehicles shall be limited to SR-84 and Paseo Padre Parkway to minimize impacts on vehicular and pedestrian traffic, circulation and safety. Provisions for cleaning surface streets used for haul routes so that any damage and debris attributable to the haul trucks can be identified and corrected by the project proponent(s). Monitoring provisions including a process for responding to, and tracking, traffic and pedestrian complaints pertaining to construction activity, including identification of an onsite complaint manager. 	City of Fremont Community Development Department	During project construction
	<p>Mitigation Measure TC-2b: Implement a Traffic Management Plan for Any Required Import of Fill.</p> <p>As import of soils would be required for this project, the project shall comply with the following conditions to mitigate impacts created by truck traffic traveling to and from the site:</p> <ul style="list-style-type: none"> Limitation on deliveries from 7 AM to 9 AM and 4 PM to 6 PM Monday through Friday. Construction trucks shall travel to and from the project area using a modified temporary truck route of SR 84 and Paseo Padre Parkway between SR 84 and the site. Paseo Padre east of the site, Ardenwood Boulevard, excepting site frontage access, and Decoto Road shall be restricted from construction truck travel. No trucks shall be permitted on Auto Mall Parkway between I-880 and I-680. Once the haul site is known, specification of haul routes to and from the haul site. Because the haul site is unknown, additional 		

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
<i>Transportation and Circulation, Continued.</i>			
<i>Impact TC-2, Continued.</i>	<ul style="list-style-type: none"> environmental review will be completed if necessary and when the haul site is identified. Requirements that soil be hauled by vehicles capable of hauling at least 18 cubic yards to limit total truck trips. Posting of security adequate to repair any road or other damage; payment for city inspections as required to monitor compliance with truck route and other requirements. This plan shall conform to current City policies regarding construction and shall be reviewed by the City prior to construction. Implementation of this plan would reduce construction-related truck traffic impacts to a less-than-significant level. <p>This plan shall conform to current City policies regarding construction and shall be reviewed by the City prior to construction.</p>		
Impact TC-3: Implementation of the project would increase traffic volumes and worsen LOS conditions at the Alvarado Boulevard/Dyer Street signalized intersection.	<p>Mitigation Measure TC-3: Modify the Alvarado Boulevard/Dyer Street Intersection (located in Union City).</p> <p>In order to achieve a difference in average delay of less than 1 second or LOS D or better during the PM peak period, the project sponsor shall provide funding, if required, and coordinate with the City of Union City regarding the modification of the Alvarado Boulevard/Dyer Street intersection as follows:</p> <ul style="list-style-type: none"> The intersection signal cycle length shall be increased from 100 to 110 seconds. <p>The project shall coordinate with the City of Union City to ensure timely completion of the required improvements and provide any funding needed to increase the cycle length. With this mitigation in place, the intersection average delay would be less than 1 second during the PM peak hour in compliance with the Union City standard.</p>	Project Proponent(s) and City of Union City	During project construction

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
<i>Transportation and Circulation, Continued.</i>			
Impact CUM TC-1: The addition of project-related traffic to the 2030 Baseline would add significant delays to some intersections already operating at LOS F or worse in 2030.	Mitigation Measure CUM TC-1a: Increase intersection cycle length at the Newark Boulevard/Jarvis Avenue intersection. In order to mitigate potential cumulative impacts during the PM peak period at the intersection of Newark Boulevard/Jarvis Avenue, the intersection cycle length shall be increased from 100 seconds to 110 seconds. The project proponent(s) shall pay the cost to increase the cycle length at the Newark Boulevard/Jarvis Avenue intersection if the City of Newark permits and commits to the mitigation. With this mitigation in place, the intersection average delay would be less than 4.0 seconds during the PM peak hour and the cumulative impact would be reduced to a less-than-significant level. If the City of Newark does not permit and commit to the mitigation, the impact at the Newark Boulevard/Jarvis Avenue intersection would be significant and unavoidable.	Project Proponent(s) and City of Newark	Prior to certificate of occupancy
	Mitigation Measure CUM TC-1b: Modify the intersection of Ardenwood Boulevard/Commerce Drive. In order to reduce project impacts during the AM peak period at the intersection of Ardenwood Boulevard/Commerce Drive, the project proponent(s) shall pay to fund the modification of this intersection. The intersection of Ardenwood Boulevard/Commerce Drive shall be designed with the following components: <ul style="list-style-type: none"> ■ Restriping the one shared left-through-right turn lane on the westbound approach to include one left-turn and one through shared right-turn lane. ■ Modify the traffic signal to match the revised striping. This may include replacing mast arms, signal heads and vehicle detectors. With this mitigation in place, the intersection level of service would remain at LOS F during the AM peak period, but would reduce delays to	Project Proponent(s) and City of Fremont Transportation and Operations Department	Prior to certificate of occupancy

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
<i>Transportation and Circulation, Continued.</i>			
<i>Impact CUM TC-1, Continued.</i>	less than 4.0 seconds, which would not exceed the threshold of significance. Therefore, the cumulative impact would be reduced to a less-than-significant level.		
	<p>Mitigation Measure CUM TC-1c: Increase intersection cycle length at the Union City Boulevard/Lowry Avenue intersection.</p> <p>In order to achieve a difference in average delay of less than 1.0 seconds or better during the AM peak hour, the intersection cycle length shall be increased from 100 seconds to 110 seconds.</p> <p>The project proponent(s) shall pay the cost to increase the cycle length at the Union City Boulevard/Lowry Avenue intersection if Union City permits and commits to the mitigation. With this mitigation in place, the intersection average delay would be less than 1.0 seconds during the AM peak period, reducing the cumulative impact to a less-than-significant level. If Union City does not permit and commit to the mitigation, the impact at the Union City Boulevard/Lowry Avenue intersection would be significant and unavoidable.</p>	Project Proponent(s) and the City of Union City	During project construction
	<p>Mitigation Measure CUM TC-1d: Increase intersection cycle length at the intersection of Thornton Avenue/SR 84 EB ramp.</p> <p>In order to improve the overall LOS and reduce additional delay to less than 4 seconds, preference of additional time for left turn movements from the ramp to Thornton Avenue is required. The signal timing will need to be adjusted from its current 50 second cycle to a cycle of 58 seconds so that the increase in average delay is less than 4 seconds. As a State facility, the management of traffic operations are monitored on a regular basis and subject to adjustment by Caltrans. If Caltrans does not choose to implement a change to the signal timing when traffic volumes warrant an adjustment, the impact at the Thornton Avenue/SR 84 EB intersection would be significant and unavoidable.</p>	Project Proponent(s) and Caltrans	Prior to certificate of occupancy

Environmental Impacts	Mitigation Measures	Responsible Agency	Timing
<i>Transportation and Circulation, Continued.</i>			
Impact CUM TC-2: Cumulative-related traffic would exceed the vehicle capacity of each lane on Ardenwood Boulevard.	Mitigation Measure CUM TC-2: Widen Ardenwood Boulevard. In order to accommodate the anticipated peak period traffic demand under cumulative conditions, the project proponents shall complete its fair share of the project by widening Ardenwood Boulevard along the project frontage to three lanes in each direction and installing bike lanes from Paseo Padre Parkway to Ranch Drive. The project shall also dedicate right-of-way along the project frontage for the entire length of Ardenwood Boulevard to allow for future widening, if needed, and shall complete the improvement for the new Ardenwood Boulevard and Ranch Drive intersection. The widening of Ardenwood Boulevard shall conform to City Standard Specifications for median islands, sidewalks, and bicycle lanes. With this improvement, Ardenwood Boulevard would adequately accommodate the anticipated cumulative AM and PM peak period traffic demand.	Project Proponent(s) and City of Fremont Community Development Department	During project construction

Source: CirclePoint 2010.

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